

Z1 350Z G35 ANGLE KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2003-2008	Nissan 350Z
2003-2007	Infiniti G35 Coupe
2003-2006	Infiniti G35 Sedan

PROLOGUE:

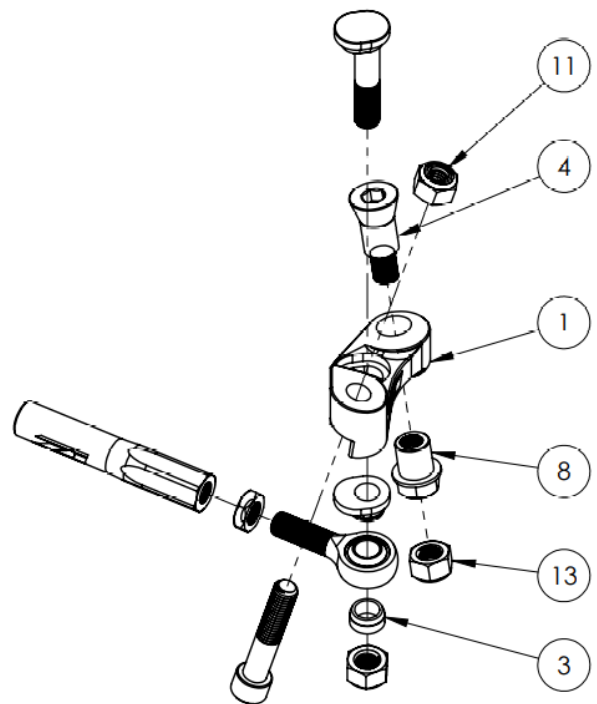
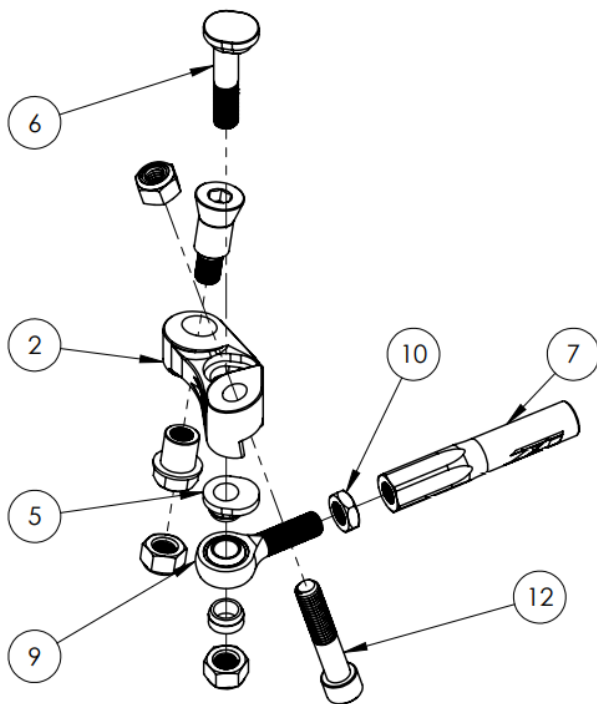
Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Motorsports 350Z G35 Angle Kit, consult with a Professional Mechanic or contact Z1 Motorsports for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	1	Tie Rod Relocation Bracket - Passenger
2	1	Tie Rod Relocation Bracket - Driver
3	2	Bump Steer Spacer
4	2	Compression Rod Bolt (used in future control arm kit)
5	2	Ackermann Washer
6	2	Tie Rod Bolt
7	2	Tie Rod Extension
8	2	Compression Arm Shoulder Nut
9	2	Rod End Heim Joint
10	2	M14 X 1.5 LH Thread Stainless Steel Thin Hex Nut
11	2	M14 X 2.0 Steel Locknut
12	2	M14 X 2.0 Steel Socket Head Bolt, 70mm LONG
13	4	M14 X 1.5 Steel Locknut (used in future control arm kit)



TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets
- Assorted Metric Wrenches
- Crescent Wrench
- 14mm Allen/Hex Key
- Torque Wrench
- Needle Nose Pliers

SAFETY REQUIREMENTS:

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain in safe space and well-ventilated areas.

BEFORE YOU BEGIN:

Remove contents from the Z1 Motorsports 350Z G35 Angle Kit and verify that ALL necessary hardware is present.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Release tension to front lug nuts, but DO NOT remove them.
3. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support vehicle using jack & jack stands.
4. Remove front lug nuts and front wheels.
5. Starting on either side of the vehicle, loosen jam nut on outer tie rod.



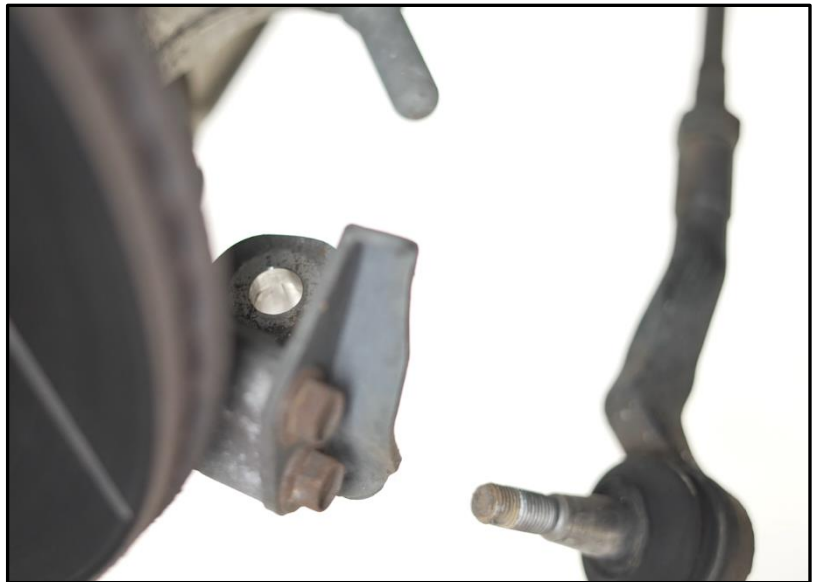
6. Remove cotter pin on outer tie rod ball joint at the knuckle.



7. Loosen/remove the nut securing the outer tie rod ball joint to the knuckle. Install the nut back on the ball joint with a few threads, in order to hit the ball joint out of the knuckle without damaging the threads.



8. Once the ball joint is unseated, remove the nut and then remove the ball joint from the knuckle.



9. Unthread the outer tie rod from the inner tie rod.



10. Remove the cotter pin and nut securing the compression rod's ball joint to the knuckle.



11. Locate the billet tie rod relocation bracket, compression rod shoulder nut, and loctite. Add some Loctite to the first few threads of the compression rod shoulder nut.

12. Depending on if your compression rod unseated itself once the nut was removed, push down on the compression rod, center the ball joints threads, and position the tie rod relocation bracket in place. It may help to have a buddy help hold the compression rod down while you align the bracket and secure with the shoulder nut.



Compression Rod
Shoulder Nut

13. Locate the 70mm socket head bolt and M14-2.0 locknut. Using a 14mm Allen key/hex socket install the bolt through the bottom of the tie rod relocation bracket and secure with the nut on top. Do not fully tighten nut yet.



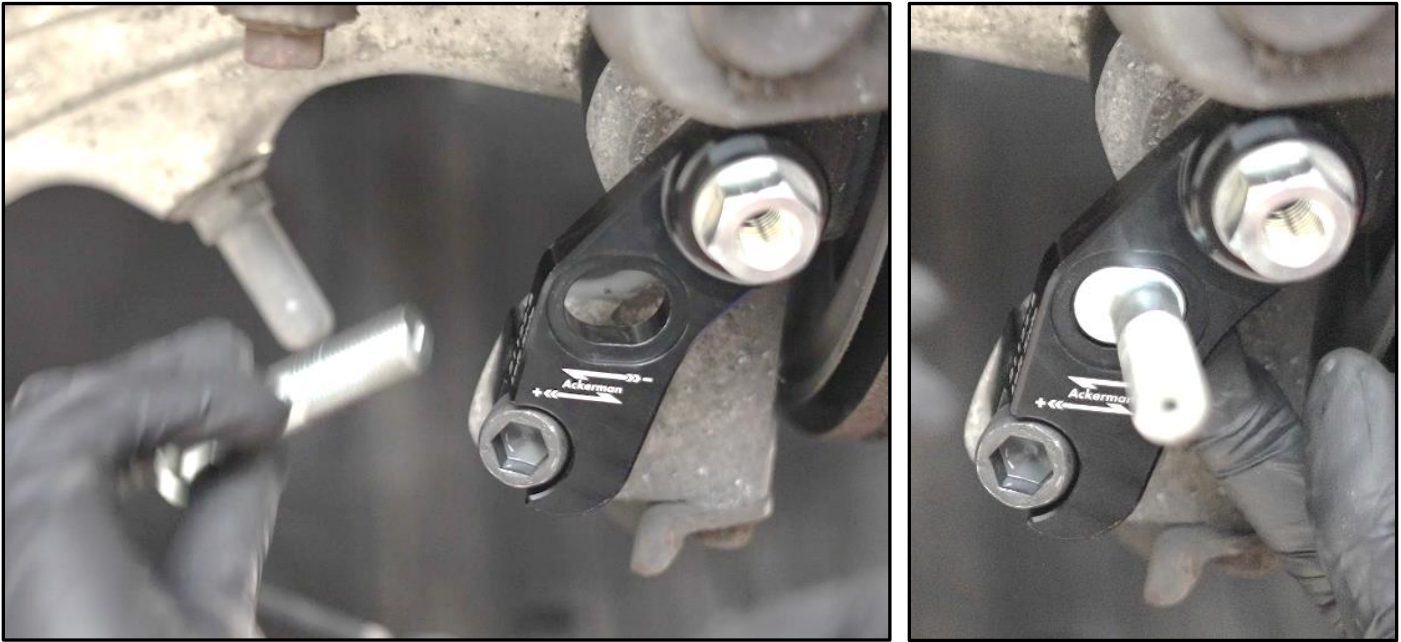
14. Locate the tie rod bolt, Ackermann washer, heim joint rod end, bump steer spacer, M14-1.5 lock nut, thin M14 jam nut, and tie rod extension.

Note: Customers with offset steering rack spacers will need to use the shorter tie rod extension, part number 21122-K.

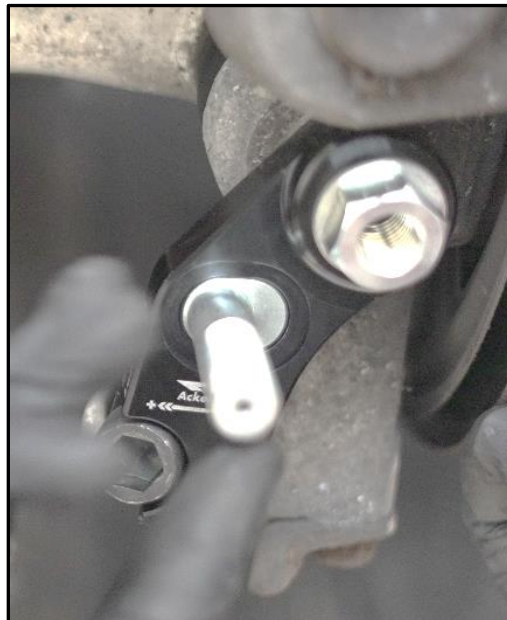
15. Install the jam nut onto the rod end, then install the tie rod extension. Thread the outer tie rod assembly onto the inner tie rod (as shown).



16. Install the tie rod custom bolt into the top side of the tie rod relocation bracket Ackermann slot.



The custom bolt can be installed in either direction, either offsetting the bolt further outboard or closer inboard. In the outboard setting (shown above at right) it will provide *less* Ackermann and steer the wheels more parallel, which is what many drivers prefer for drifting. The outboard setting (shown below) will provide Ackermann closer to the factory setting. Different drivers have different preferences, which may even change depending on the track or type of motorsport. For most drifters, the negative (or outboard) setting is preferred on track.



17. Install the Ackermann washer on the underside of the relocation bracket in the same orientation as the bolt.



18. Install the heim joint rod end onto the tie rod custom bolt. Then install the bump steer washer, with the conical side toward the heim joint. Then secure with the M14-1.5 locknut.



Note: You will likely need to turn wheel inboard for the heim joint tie rod end to reach the bolt. You may also need to rotate the tie rod extension to lengthen the outer tie rod. While doing so make sure to hold the heim joint in place so that the tie rod extension is unthreading from both the heim joint and the inner tie rod at the same time.

Note: Vehicle above is shown with [Z1 Offset Steering Rack Spacers](#) and using the -K short tie rod extension.

19. Torque compression rod shoulder nut to 56-69ft-lb. You may need to apply pressure by pulling down on the compression rod or using a pry bar to prevent the ball joint from rotating.

20. Torque socket head bolt and nut to 56-69ft-lb.

21. Recommended torque spec for the nut securing heim joint tie rod end is 35-45ft-lbs.

- a. The factory tie rod nut's torque spec is 22-28ft-lbs. But since the Z1 tie rod bolt is a larger M14 thread, we recommend a bit higher. All the nuts supplied are lock nuts and you can use Loctite for extra reassurance.

22. Remove the OE steering stop from compression rod. Install M16 x 60mm bolt with the jam nut into compression rod. This bolt will now function as an adjustable steering stop. You can thread it out to the same distance the factory one was at or further in to allow more steering angle. Use the M16 jam nut to lock the adjustable steering stop in place.

Depending on your suspension settings, how low your car is, and what other suspension arms you have will change how much angle you can get and when the steering stop will engage. It is recommended that your steering stop contacts the bracket on the knuckle just before any other suspension component contacts anything else.

The next contact point is often the lower shock mount bolt. It is recommended to flip this bolt around so that the head of the bolt is at the rear.

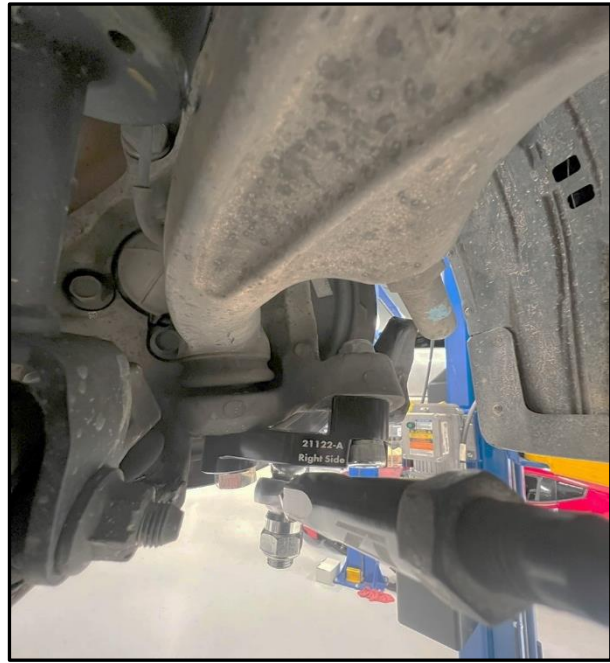
After the lower shock mount bolt is flipped, the compression rod is often next to contact your strut/coilover. Without a high clearance compression rod, it is recommended to set the steering stop to contact just before the compression rod contacts the coilover.

There are too many variables between suspension settings, ride height, other aftermarket arms to answer each and every situation here. It is recommended to set the steering stop to a similar distance to the OE one and go through the range of motion in the suspension and steering to find what will hit first, then start adjusting the steering stop.

23. Repeat steps 5-21 on the opposite side of the vehicle.
24. Check vehicle for loose tools/items.
25. Reinstall the wheels and lug nuts.
26. Properly lower vehicle from jack and jack stands.
27. Torque lug nuts to 85ft-lbs.
28. It is now time to eyeball set your toe before a proper alignment. Jack the vehicle back up and make sure both jam nuts on either side of the tie rod extension are loose. Then rotate the tie rod extension to unthread both the heim joint from the tie rod extension, and the tie rod extension from the inner tie rod.
29. After an adjustment has been made lower the vehicle. The wheel will toe out more than before once at load on the ground. It may take a few adjustments to get your toe back in line.
30. Once your toe is pretty close to straight (or however you want it for drifting or other motorsport) tighten the jam nuts on both ends of the tie rod extension.
31. Perform a proper wheel alignment.

Note: There will be a few extra components that are not used. The compression rod bolts and 2x of the M14-1.5 locknuts are to be used in a future high clearance control arm kit.

32. Completed installation should look as shown below



Note: Adjustable steering angle stops are not installed in the above images

END

Additional Technical Support:

Contact Z1 Motorsports at info@z1motorsports.com

Or call 770-838-7777 between 9am and 6pm ET